

**U. S. DEPARTMENT OF ENERGY
WORK BREAKDOWN STRUCTURE DICTIONARY
PART II - ELEMENT DEFINITION**

1. PROJECT TITLE/PARTICIPANT Environmental Management/Paducah Remediation Services, LLC (PRS)		2. DATE 06/29/07	3. IDENTIFICATION SITE Paducah Project DOE Portsmouth/Paducah Project Office (PPPO)
4. WBS ELEMENT CODE 04.12.02.02		5. WBS ELEMENT TITLE Outyear Newly Generated Waste	
6. INDEX LINE NO. N/A	7. REVISION NO. AND AUTHORIZATION Rev. 1		8. DATE 10/29/07
9. APPROVED CHANGES N/A			
10. SYSTEM DESIGN DESCRIPTION N/A		11. BUDGET AND REPORTING NUMBER N/A	
12. ELEMENT TASK DESCRIPTION <p>This is a planning level WBS Dictionary.</p> <p><u>WBS STRUCTURE</u></p> <p>The scope of this element includes the following subelements.</p> <ul style="list-style-type: none"> WBS 04.12.02.02.01 Outyears NGW Subproject Management WBS 04.12.02.02.02 Outyears NGW Operations <p><u>INTRODUCTION</u></p> <p>Manage the generation, packaging, sampling, characterization, and disposition of low-level waste (LLW) and mixed low-level waste (MLLW) that is generated from the Infrastructure contractor and USEC. Provide project management, task and baseline planning, project controls, oversight of subcontractors, and technical support for the generation, characterization, and disposition of newly generated waste.</p> <p><u>LOGIC RELATIONSHIPS</u></p> <p>Interfaces:</p> <p><u>Internal to Contractor:</u></p> <ul style="list-style-type: none"> All contractor project managers and staff All subcontractors <p><u>External to Contractor:</u></p> <ul style="list-style-type: none"> U.S. Department of Energy (DOE) Portsmouth/Paducah Project Office and support contractors DOE Headquarters or other DOE sites (if applicable) U.S. Environmental Protection Agency (EPA) Commonwealth of Kentucky (KY) Site tenants including United States Enrichment Corporation (USEC); Uranium Disposition Services, LLC; and Swift & Staley Team (SST) USEC services in the area of property, information technology, radios, etc. SST, particularly in the areas of property management, information technology, and security. Nevada Test Site (NTS): Profiling and disposition of newly generated and classified and fissile low-level waste (LLW), if required or applicable. EnergySolutions: Profiling, treatment, and disposition of mixed and LLW, if required or applicable. Toxic Substances Control Act (TSCA) Incinerator, if required or applicable. Commercial treatment, storage, and disposal facility: For treatment and disposal of nonradioactive hazardous waste, if required or applicable. Stakeholders 			

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<ul style="list-style-type: none">• Citizens Advisory Board and supporting contractor Edward Holmes Incorporated.• DOE Integrated Safety Management System (ISMS) Verification Team• Other nonregulatory key interfaces <p>Time Sequencing with Other Work:</p> <ul style="list-style-type: none">• This is an ongoing activity to the end of 09/30/19, contract completion.• Task duration 11 years (10/01/09 – 09/30/19).• Integrate waste packaging and transportation with waste generation to assure Waste Generator Services focuses on keeping newly generated waste moving off-site rather than into storage. <p><u>SCOPE DESCRIPTION</u></p> <p>Estimated level of effort and the resource mix for skilled labor, professional, and management resource staffing is based on past PGDP Newly Generated Waste and Legacy Waste management experience, and PRS and EnergySolutions (major subcontractor) experience on projects similar to the waste disposition project including Fluor Fernald Waste Management, Idaho Falls Waste Management, and Hanford Waste Management. The PGDP Waste Management organization has capacity to manage Newly Generated Wastes in a number of facilities. Seven fixed facilities are available to treat, repackage and store wastes of one type or another generated on the project. Four of these facilities are able to manage RCRA LLW, and five can manage TSCA LLW. Combined, all seven of the facilities have approved capacity that far exceeds projected NGW volumes. The combined capability and capacity of the Waste Management facilities has not been a problem historically, nor is it projected to be a limitation in the future. Actual peaks and valleys in the waste load are handled by moving resources in and out from other projects on an as needed basis. Process knowledge, existing sample data, additional sampling, and field screening methods will be used to characterize the waste for final disposition. Waste containers will be opened, visually inspected, decanted, prohibited articles removed, and void filled, as necessary, to meet the WAC at the appropriate TSDF. Aqueous liquids will be consolidated into tote tanks and transported to the on-site water treatment facility. Nonaqueous liquids will be sampled and dispositioned at the East Tennessee Technology Park TSCA I in Oak Ridge, TN, until it shuts down, then these wastes will be treated at PermaFix and EnergySolutions. Waste requiring solidification and/or stabilization to meet land disposal requirements will be performed on-site as possible. Waste being transported off-site will be repackaged and/or overpacked as necessary to meet DOT requirements. In most cases, drums will be placed in supersaks or B-25 boxes, larger containers and large items will be placed in Sealand shipping containers. Once packaged, the waste will be transported to the appropriate TSDF.</p> <p>WBS 04.12.02.02.01 Newly Generated Waste Subproject Management</p> <p>Provide overall management activities associated with this subproject. Activities performed under this subelement include the following:</p> <ul style="list-style-type: none">• Perform technical, contractual, and project functions necessary to effectively manage and report scope, schedule, and budget.• Maintain all activities within the defined safety, environmental, and quality requirements.• Perform technical and personnel management functions.• Maintain technically qualified and properly trained personnel.• Develop, evaluate, and report project performance metrics.• Interface with DOE, KY, EPA, other prime contractors, and stakeholders, as needed. <p>WBS 04.12.02.02.02 Operations</p> <ul style="list-style-type: none">• Accept generated waste from the site (including the Infrastructure contractor) that meets the requirements of the permit.		

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<ul style="list-style-type: none">• Store, characterize, process, package, and ship all newly generated waste for dispositioning.• Comply with all transportation certificate requirements and receiver site WAC other policy requirements for off-site shipments to NTS, EnergySolutions, and TSCA Incinerator.• Disposition all of the waste within 1 year of the date of generation or in accordance with the latest Site Treatment Plan (STP).• Store, characterize, process, package, and ship all of the newly generated waste and other nuclear materials to an approved storage, treatment, or disposal site. This includes final characterization, packaging, labeling, and final disposition of all acceptable waste (e.g., not sanitary waste) from the Infrastructure contractor.• Disposition, process, and/or package waste and nuclear materials to meet receiver site WAC including signing all manifests and RCRA land disposal restriction notifications.		
<u>DELIVERABLES</u>		
WBS 04.12.02.02.01 Newly Generated Waste Subproject Management		
<u>Element Milestones:</u> <ul style="list-style-type: none">• None		
<u>Element Deliverables:</u> <ul style="list-style-type: none">• Paducah Contractor Quality Assurance (QA) Project Plan• Paducah Contractor environmental, safety, and health ES&H Plan• Provide input to the following reports and submittals (if applicable):<ul style="list-style-type: none">○ Monthly Project Performance Report (PPR)○ Risk Management Plan Updates○ Site Management Plan (SMP)○ Solid Waste Management Unit Assessment Report○ Semiannual Critical Analysis Report○ Presentations○ Federal Facility Agreement (FFA) briefings○ Labor determinations○ Gold Chart Performance Metrics○ Annual updates to STP○ Annual Compliance Agreement Report○ Annual ISMS Update○ Annual Work Smart Standards Update○ Financial Reporting, Management Analysis Reporting System○ Annual Statement of Costs Incurred and Claimed○ Monthly Commitment Reports○ FFA Semiannual Progress Report○ Remedial Action/Regulatory Commitment Tracking Report○ Other reports/documents, as necessary		
WBS 04.12.02.02.02 Operations		
<u>Element Milestones:</u> <ul style="list-style-type: none">• Ensure complete disposition of all newly generated waste in the out-years (10/01/09 - 09/30/19).• Close, inactive and D&D unneeded Waste Storage Facilities by 9/30/19.		
<u>Element Deliverables:</u> <ul style="list-style-type: none">• None		

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<p><u>REQUIREMENTS</u></p> <ul style="list-style-type: none"> • CERCLA/National Contingency Plan • KY Hazardous Waste Permit (KY8-890-008-982) • FFA for the Paducah Gaseous Diffusion Plant (PGDP) • SMP for PGDP (annual revisions) • Applicable state and federal laws and regulations (applicable or relevant and appropriate requirements) • Contractor ISMS • UEO-1066, as updated - Lease Agreement between DOE and USEC, Revision 4, dated October 30, 2001 • Enclosure to GDP 95-0018, as updated - USEC and DOE Resolution of Shared Site Issues, Revision 1, dated March 30, 1998 • Applicable PRS plans, policies and procedures. • WAC for all applicable treatment and disposal facilities that were in effect on April 24, 2006. • Applicable DOE Orders • Applicable Federal Acquisition Regulations <p>It is the core value of the Contractor that the safety and health of every worker, the public at large, and our environment are the most important assets that we are entrusted to protect. To accomplish this, an ISMS, based on DOE's ISMS, has been implemented that incorporates the five core functions and is based on the seven guiding principles. The objective of ISMS is to systematically integrate safety and environmental protection into the planning and execution of all work activities. The term safety encompasses Nuclear Safety, Industrial Safety, Industrial Hygiene, Occupational Health, Health Physics, and environmental issues. ISMS requirements flow-down to Contractor's subcontractors. The five core functions are (1) define the scope of work, (2) analyze hazards, (3) develop and implement hazard controls, (4) perform work within controls, and (5) provide feedback and continuous improvement. The seven guiding principles are (1) line management responsibility for safety, (2) clear roles and responsibilities, (3) competence commensurate with responsibility, (4) balanced priorities, (5) identification of safety standards and requirements, (6) hazard control tailored to work being performed, and (7) operations authorization.</p> <p>Before a subproject begins, several activities must be completed that demonstrate that all involved in the project have completed rigorous health and safety reviews and that all potential hazards of doing the work have been identified. The routine activities in remedial actions are conducted in accordance with standard operating procedures, activity hazard analyses, and Integrated Safety Management plans. Nonroutine work will require a readiness assessment, as necessary, to ensure complete health, safety, and environmental reviews prior to work start. This assessment is conducted by people experienced in similar kinds of work with the right to examine all aspects of a project about to commence and requires that the project team provide documented evidence that any applicable requirements of the job have been met.</p> <p><u>SCOPE ASSUMPTIONS</u></p> <p>Disposition will be based on material characterization data with preference to on-site disposition at C-746-U Landfill for all materials meeting the landfill's WAC. Materials not meeting the landfill's WAC will be characterized, packaged, and shipped to an appropriate off-site TSD.</p> <p><u>RISK MANAGEMENT</u></p>		

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See Risk Management Plan for analysis.

CERCLA AREAS AND SWMU

None

BASIS OF ESTIMATE

The out-year costs are based on the PRS 2009 fiscal year baseline estimate.

1. Summary of Site Conditions

The C-746-Q building is a Category 2 nuclear facility, in accordance with 10 *CFR* § 830 for potential criticality concerns and the others are radiological or standard industrial facilities.
The Paducah Site has one 60-acre RCRA Subtitle D landfill that currently is operational and is designated as the C-746-U Landfill. The landfill's WAC prohibits the disposal of classified, hazardous, or LLW; however, waste with nearly nondetectable radioactive material within the authorized limits may be disposed of in the C-746-U Landfill. The landfill has a final design capacity to accept 1.5 million m³ of waste and currently contains 50,000 m.

The following table identifies each Waste Disposition facility and its associated storage capability:

Facility	Building Type	Allowable Waste Types
C-301	Low-Level Waste Storage	Storage: LLW, MLLW
C-331	Process Building	Storage: LLW, TSCA/RAD
C-333	Process Building	Storage: LLW, TSCA/RAD
C-335	Process Building	Storage: LLW, TSCA/RAD
C-337	Process Building	Storage: LLW, TSCA
C-733	Waste Oil and Chemical Storage Facility	Storage: LLW, MLLW, RCRA, TSCA
C-746-A	North Warehouse	Storage: LLW, MLLW, RCRA, TSCA
C-746-B	South Warehouse	Storage: LLW, TSCA
C-746-H3	Storage Slab	Storage: LLW, MLLW, RCRA
C-746-Q	Hazardous and LLW Storage	Storage: LLW, MLLW, RCRA, TSCA
C-746-V	ER Waste Staging Area	Storage: LLW
C-752-A	ER Waste Storage Facility	Storage: LLW, MLLW, RCRA, TSCA
C-753-A	TSCA Storage Facility	Storage: LLW, TSCA

2. Estimating Methods
☐ Parametric ☐ Bottom-Up ☒ Other: Bottom-up/Parametric

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3. Sources of Estimating

Resources (including labor) and quantities of materials were developed based on the knowledge of the scope that is derived from review of the Request for Proposal (RFP) and supporting technical documents and on the experience and professional judgment of technical and operations staff familiar with Newly Generated Waste at the PGDP and the assigned estimator. Also, Legacy Waste (WBS 04.12.01.01) inventories are similar to Newly Generated Wastes. The similarities are used in developing the estimate for Newly Generated Waste. The WITS database provides the foundation of information associated with Legacy Wastes. WITS includes information describing the waste type, physical, radiological and chemical characteristics, the source of the waste, container type (if any), and other documentation necessary to determine how the disposition of the waste will be accomplished.

Labor – Estimated level of effort and the resource mix for skilled labor, professional, and management resource staffing is based on past PGDP Newly Generated Waste management experience, and PRS and EnergySolutions (major subcontractor) experience on projects similar to the legacy waste disposition project including Fluor Fernald Waste Management, Idaho Falls Waste Management, and Hanford Waste Management.

Equipment – Vendor quotes, National Alliance contracts, and Construction Industry Blue Book [fuel, oil, gas and maintenance (FOGM) allowance]

Materials – Vendor quotes or National Alliance contracts

Other Direct Cost – Vendor quotes or National Alliance contracts

Transportation – Direct vendor quotes

Subcontracts – Subcontractor cost proposal or existing DOE contract pricing

4. Basis of Estimate (Unescalated values)

WASTE VOLUMES

See attached waste performance metrics, as applicable.

PROJECT SCHEDULE

See attached schedule.

BASELINE BY YEAR

See attached Baseline by Year Report.